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LAKE CARRIERS' ASSOCIATION.

To consider and take action upon all general questions relating to the navigation and carrying business of the Great Lakes, maintain necessary shipping offices and in general to protect the common interest of Lake Carriers, and improve the character of the service rendered to the public.

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THE GOVERNMENT DRY DOCK AT PORT ORCHARD.

The great dry dock at Port Orchard, Washington, now in course of construction, will be one of the largest dry docks in the world when completed and in its general equipment one of the most valuable of naval station dry docks. A large tract of land on Puget Sound, 16 miles from Seattle, has been bought for the purpose and the work of building is well under way. It is to be equipped with a timber and concrete dock, 675 feet long, with a floor width of 67 feet. Its greatest width will be 130 feet and its depth 40 feet. The cost of construction will be $608,000, and it was stipulated in the contract that the dock should be completed within three years.

The work is being done in accordance with the latest knowledge in the construction of dry docks. The dock will be closed by a gate or caisson built in the form of a ship with a hull and a bow at either end. This will be constructed of iron. Its dimensions will be 91 feet in length, extreme breadth 24 feet, and a height of 38 feet from bottom of keel to top of waterway. The gate is pierced by twelve 20-inch filling culverts, each fitted with a gate valve. For emptying the dock, three powerful centrifugal pumps are provided, each of which is operated by a separate engine. In addition to this there will be a fourth centrifugal drainage pump. The steam for operating the pumps will be supplied by six large steel tubular boilers. The boiler pressure will be 100 pounds to the square inch, and the pumps will be capable of discharging 110,000 gallons of water per minute.

A NEW HURRICANE SIGNAL.

The Weather Bureau at Washington, has caused the adoption of a new wind signal to be known as the "hurricane signal," to be used after January 1, 1895, as occasion demands. The signal consists of two red flags with black centers displayed one above the other. It will be used to announce the expected approach of tropical hurricanes and the dangerous storms which move not infrequently across the lakes and the North Atlantic coast. These flags will be of the same size and pattern as the one now used for the storm signal, except that the pennants will be omitted. There will be no distinctive night hurricane signal provided, but if the new signal be displayed during the day and is not changed before dark, the usual night storm signal will be displayed in its place. The direction of the storm signal will of course depend as usual upon the message accompanying the order to use it.

DERELICTS AT SEA.

The Admiralty and Board of Trade Committee, of England, have recently published a report on the subject of the destruction of derelict vessels. The committee recommend the better reporting of derelict vessels, as to their character and location and publication periodcally of such report. But, on the other hand, they do not deem it necessary to destroy abandoned vessels or to hold international conferences to discuss the subject. The report further states that the danger of collision with derelicts is probably much exaggerated and that to publish the information concerning derelicts given in the North Atlantic pilot charts issued by the United States, would be likely to mislead and needlessly alarm English mariners. This ruling casts a very unjust reflection upon the value of the pilot charts and we must say that if the derelicts are a menace to navigation, as the committee's report virtually admits, they certainly deserve more serious attention than the British committees seem to have given them.

A GREAT NORTHWESTERN WATERWAY.

The value to the Northwestern States of a successful issue of the proposed project for a deep waterway from the Great Lakes to the ocean, which is now under consideration by an international commission, is, perhaps, not fully appreciated by the mass of Eastern people. The enormous marine traffic, which is concerned in the scheme, can be revealed in a few brief statistics. One-eighth of the entire commerce of the United States passes through the St. Mary's Falls Canal. The tonnage that passed through this canal in 1891, exceeded by over 2,000,000 tons of entire freight of all nations that passed through the Suez canal during that year. More tonnage passes the city of Detroit than any other point in the world. In 1889, there were nearly 10,000,000 tons more than the total entrances and clearances of all United States seaports, and nearly 3,000,000 tons more than the aggregate shipping of London and Liverpool; and this latter excess was increased to 10,000,000 tons the following year. A great portion of this freight is destined for Eastern markets and gains its outlet, at present, through New York or Montreal. But one-half the tonnage of lake traffic are of too great draft to pass to-day through the Welland Canal, and trans-shipment is therefore necessary. The enterprise would, if carried out, be one of the most important in the modern engineering annals of the country.—*Philadelphia Record.*

DURATION OF BUOYAGE SEASON IN CANADA.

Buoys in the Dominion of Canada as a rule are maintained in position during the season of navigation. In districts where the lights are maintained in operation throughout the year the buoys are kept in position all the year round; in districts where navigation is closed in winter buoys are kept out in the autumn until the last vessels have cleared, or as late as the ice will allow, with due regard to their safety; and replaced in spring as soon as the state of the ice will admit of their being placed in position.

All the can buoys in the river St. Lawrence below Quebec are removed after the 14th November; all the gas buoys in the same river are set out as soon as possible after the 11th May each spring. and taken up as soon as convenient after the 10th November each autumn.

NATIONAL TRADE BOARD.

The annual meeting of the Massachusetts Board of Trade took place on November 21st. During the year the organization has grown so that it is now composed of representatives of thirty-eight local trade bodies, instead of thirty-four as a year ago. The board has seemed to meet a want, and Chas. E. Adams, of Lowell, the president, suggested that it ought hereafter to have permanent headquarters, not only for a place of meeting, but as a center for obtaining mercantile and industrial information.

The most suggestive part of his address, however, was that in which, recognizing the importance of state trade bodies and the fact that fourteen of them already exist, he urged the further union of these state organizations into a national body, with headquarters at Washington, which should gather information regarding mercantile and industrial interests for the state boards, and should also be at hand to exert its influence upon congress for the passage of laws beneficial to business and to impress upon congress the need of making legislation more a matter of business, according to business methods, than a body for political measures, according to political methods, as has been the practice so generally in the past.

NEWS AROUND THE LAKES.

CHICAGO.

Special Correspondence to The Marine Record.

A. A. Parker, of Detroit, was in this city on Saturday.

J. J. Lynn, of Port Huron, was spending a few days in this city last week.

George D. Kirham is here from Duluth spending Christmas with his mother and friends.

Capt. R. Cuson, of Detroit, is here giving his attention to the Whitney fleet, in winter quarters at this port.

The Independent Tug Line are putting a new boiler 8 by 14, to be allowed 120 lbs. steam pressure in their tug Welcome.

Carr & Blair chartered the steamer Progress for wheat at 3 cents for winter storage and delivery at Buffalo in the spring.

J. G. Keith & Co. chartered the barge Iron State for oats at 2 cents for winter storage and delivery at Buffalo in the spring.

At the last meeting of the shipmasters, Chicago Lodge, Captain George S. White, of the steamer William Edwards, became a member of the association.

Miller Brothers, shipbuilders, in accordance with their usual custom. gave to their employes on Christmas eve, a fine turkey for a Christmas present. The firm have about 250 men in their employ at the present time.

At Miller Bros'. shipyard the work on the steamer Servia is being pushed forward as rapidly as possible. The fire boat Geyser is undergoing a thorough overhauling of her hull and her boiler will receive extensive repairs by John Mohr & Sons, boiler makers.

C. W. Elphicke & Co. chartered the steamers W. R. Stafford and consorts, J. A. Francombe, and Edward McWilliams, steamer Iron Age and consort, Iron City, all for corn pt. for winter storage and delivering in the spriag either at Lake Erie, Lake Huron, or lake Ontario ports.

The Vessel Owners' Towing Co., who also promptly attend to all kinds of wrecking, have gotten up a very neat calendar for 1895, on which is represented a good picture of the tug Dan T. Helm, the last addition to their fleet. The calendar is being distributed among the company's patrons and friends.

J. B. Bates & Co., shipbuilders, are giving the schooner Sophia J. Luff new bow planking; the schooner McWilliams is having her decks and topsides calked; the schooner W. P. Ketchum and consort George B. Owen are having decks calked; the schooner Redwing is receiving new decks, the steamer William H. Gratwick No. 1. is having topsides calked; the steamer Charles A. Eddy is receiving some new covering board and plank; the steamer Selwyn Eddy some new wale strake.

At a meeting of Chicago Lodge, No. 3, of the Shipmasters' Association, held at their hall Wednesday afternoon, for the purpose of electing officers for the year ensuing. Capt. Robert Young was elected president, Capt. H. J. Hatch first vice president, Capt. H. F. Loftus second vice president, Capt. W. G. Turner treasurer, Capt. F. B. Higgie secretary, Capt. Robert Young delegate to Shipmasters' convention at Detroit on January 8th, Capt. George Tebo alternate delegate to convention.

Several vessels have been chartered for 2¼c on oats, winter storage, and spring delivery at Buffalo. This is considered equal to 3½c on wheat for the reason that large craft can carry from 30,000 to 40,000 bushels more of the present crop of oats than they could of the crops of the two previous seasons. Holders of grain are freely offering 3c on wheat, but carriers insist upon a rate of 3½c. The amount of wheat in store at Chicago now is about 30,000,000 bushels, of which 25,000,000 bushels is in regular elevators and 5,000,000 in private houses. The actual grain capacity of the tonnage wintering at Chicago is placed at something over 10,000,000 bushels.

On Saturday four of the employes of the Dunham Towing and Wrecking Company became the proud recipients of prizes awarded by the company. In January last Captain Dunham had notices tacked up in the company's shops that he would give $100 to the tug captain who, during the year, should make the best record for efficiency, and $50 to the one making the next best, $75 to the best engineer, and $40 to the next best. The judges were Captains Dunham, J. R. Sinclair, and Thomas Johnson. Saturday the awards were made and the two for the captains were given to Captain Lewis Groh, of the tug J. H. Hackley, first; Captain John Ferguson, of the tug O. B. Green, second. The engineers' prizes were given to C. A. Dick, of the tug O. B. Green and Frank Meyers, of the tug George Gardner.

WILLIAMS.

CLEVELAND, O.

Special Correspondence to The Marine Record.

The tug Dreadnaught will be given a thorough rebuild this winter.

The barge Sagamore docked in the Cleveland dry dock Thursday, for bottom repairs.

Mr. H. P. Card the well-known coal dealer and vessel owner has been "under the weather" for some time past but is now growing convalescent.

The Wilson Line steamer Olympia caught fire at the Ship Owners' dry dock on Thursday morning; the extent of the damage is not yet known.

The Olympia followed the Pioneer this week in one of the Ship Owners' dry docks. The annual meeting of this company will be held at the office of Capt. Thos. Wilson Jan. 9, when plans will be perfected for lengthening and otherwise enlarging one of the dry docks.

Mr. Hannah, chief engineer of the Bradley line steamer Maurice B. Grover remarked yesterday that after fourteen years service he had never been on the lake so late as this season. Christmas day was spent on Lake Erie and the Grover went into winter moorings Wednesday.

The Craig Shipbuilding Co., of Toledo, is figuring on the construction of a steel steamer like the John B. Ketcham this winter. It is expected that the new dry dock will be completed by March 1. It will be 400 feet long, 100 feet wide at the top, and 50 feet at the bottom.

There has been a misunderstanding regarding the time of the launch of the North Land on account of the date being altered some time ago. It has now been definitely arranged that the great twin screw passenger steamer will be launched on Saturday afternoon, Jan. 5.

The auditing committe, Capts. C. E. Benham and W. S. Mack, appointed to audit the books of the treasurer, of the Lake Carriers' Association, Capt. Geo. P. McKay, previous to the annual meeting, have completed their work and their report is highly satisfactory. The treasurer's statement will now be included with the president's annual address.

The Wilson Line steamer Sitka has the record this season for being the last vessel to pass through the Straits of Mackinac. The Sitka encountered a heavy northwest gale in the straits late in the afternoon of Christmas day and as it takes but a few hours to seal up that neck of water it is not considered probable that anything else will attempt to force a passage. The ice crushers will keep open communication across the Straits as usual.

The Globe Iron Works Co. are hurrying along the completion of the large new twin screw passenger steamer North Land, building to the order of the Northern Steamship Co. for the Buffalo-Duluth route. Close figuring has been done at these yards lately on contracts for new tonnage and it is expected that one or more keels will be laid soon after the big passenger boat is launched.

A large force of skilled labor will find a whole winter's work at the yards and shops of the Cleveland Ship Building Co. in the construction of the new steel steamer now being built to the order of M. M. Drake and others. On repair work, both on hulls and machinery, the works have been kept very busy during the past month and there is a large quantity of work still ahead with the prospect of another keel to be laid in the shipyard at an early date.

The steamers Pasadena and Maurice B. Grover, of the Bradley line arrived at this port from Buffalo on Wednesday to lay up. The steamers Hesper and Henry Chisholm arrived at Buffalo on the same day with grain from Toledo. The Hesper will come here as soon as she is unloaded and the Chisholm will be sent to Toledo. The City of Cleveland is at Toledo, where she and the Chisholm will lay up unless the weather moderates and Mr. Bradley decides to send them back to Buffalo. The steamer Aurora is still in commission and after delivering her Toledo grain cargo at Buffalo she may come here to go into winter quarters.

"A steamer will be docked for a new propeller wheel, larger than her present one, which is likely to increase her speed from a fraction over 15 miles an hour to at least 16, says a Western contemporary, but we fear that the results hoped for will not be attained. Merely increasing the size of a propeller does not increase speed, for that depends upon the pitch of it and its revolutions. The way to get increased speed is to carry more steam and get more turns."—*The Engineer*, New York. The foregoing is a mild criticism on a paragraph in this column printed two weeks ago. It is perhaps worth noting in this connection that as a rule on the lakes propellers are fitted as large in diameter as the draft of water will permit, and it is seldom we hear of one in this district being increased, but we understand that it is pitch that is referred to. *The Engineer* says size I said larger, as for his solution of how to get increased speed by more steam and more turns, this does not hold in all cases, but it has been demonstrated time and again that where an inefficient propeller is replaced by an efficient one that more speed is a sure result and that too sometimes with fewer turns.

ONEKAMA, MICH.

Special Correspondence to The Marine Record.

The following vessels are in winter quarters here: Schooners Vermont, Dan Hayes, C. J. Smith, Matilda. The Onekama Lumber Co. intend to give the Dan Hayes a thorough overhauling this winter.

BUFFALO, N. Y.

Special Correspondence to The Marine Record.

The tug Peter J. Hershey, manned by Capt. Patrick Tivenen and Engineer Frederick Kibler, has left Tonawanda for Dunkirk this week to work on the construction of 300 feet of breakwater that is to be built there this winter. She towed up two stone laden scows.

William Warren, of Warren & Huber, has bought the large barge P. H. Birckhead, now lying at Tonawanda. The price paid is understood to be in the neighborhood of $8,000. The new owner will rebuild the vessel during the winter and fit her out with compound engines for next season's work.

The Northern Steamship Co. had several freight steamers under charter this season and it would appear that they will be obliged to charter a larger number next season to take care of the regularly increasing amount of freight handled by the line. The assumption is given credence that they will build a couple of 4000-ton boats for next season's work.

The Henry Chisholm, Capt. Paul Howell, arrived at this port with corn from Toledo on Friday last. Capt. Howell has sailed for a number of years in the Bradley Line and is considered one of the most careful and skilled navigators on fresh water.

So far ice is an unknown quantity here and navigation might be wide open if underwriters would cover risks. Considering the poor season, lake instead of railroad freights ought to have been upheld. If the present assurers cannot or will not issue protection to would be assureds, then a new state of affairs ought soon to prevail in lake underwriting.

This port, like other prominent lake cities, wants increased facilities on the lake front or at least along the front of the outer harbor. We are in advance by having some concrete work on our breakwater, but otherwise, and like all the rest, we are behind the age.

Lively corn shipments between Toledo and this port is the feature of late navigation this season. M. A. Bradley, the manager of the largest fleet on the lakes, was mighty slow in starting his vessels out this spring and people generally thought that perhaps he was a little off, especially as he also seemed to go slow on charters all the season. He has been right and strictly in it, however, this fall, and has had more boats at work picking up the best fall freights than anyone else on the lakes. It is generally admitted now, what was partly conceded before, that M. A. Bradley is the most level headed man of his age in the lake business.

DETROIT, MICH.

Special Correspondence to The Marine Record.

The schooner Galatea is receiving an extensive overhaul and repairs at this port.

The steamer Ida M. Torrent, burned at Cross village last summer, is being rebuilt.

The steamer John M. Nicol came out of drydock this week after having extensive repairs made.

The Drydock engine works have completed extensive

repairs on the boiler and engine of the ferry steamer Excelsior.

The repairs on the steamer Iroquois have been completed and she is ready to be chartered for winter storage of grain.

The Beatty line, of Sarnia, is said to be negotiating for the purchase of the Campana, to run on the Duluth route with the Monarch and United Empire.

The steamer B. W. Blanchard is at this port having her steel arches changed and other extensive repairs made, the expense of which will amount to about $7,000.

The engineer corps are engaged in making a survey of the Detroit River and when completed new charts are to be published. Engineer Herman Kallman, of Gen. O. M. Poe's office, is chief of the surveying party.

The schooner J. I. Case cleared from here this week to load wheat at Toledo for Buffalo. The powerful wooden steamer Aurora, of the Corrigan fleet, was to tow her down, but it was later determined to keep the case in Toledo until spring.

John H. Galwey is still looking for his confirmation by the Senate in the position of supervising inspector for this district. He is sanguine that he will eventually be confirmed. Though there are some among the vessel owners in Cleveland who do not want to see him appointed, the Detroit men seem to be about unanimous in his favor.

The Toledo & Ann Arbor Railroad is doing a big business at its transfer dock in Menominee. The amount of freight has become so large that one boat is unable to handle it and the other big steamer will also be put on. A few days ago the No. 2 left Menominee with twenty-two cars of lumber and left eighty-six more in the yard, nearly all of which were loaded at Menominee and Marinette.

A water-tight lifeboat invented by Paul Huebner, of Milwaukee, is being built at the Detroit boat works. It is constructed on the whaleback plan and propelled by a screw wheel placed amidships, the bottom being hollowed out for the purpose. The wheel is worked by a crew of men who sit inside, the movement being similar to that of rowing. The boat is 30 feet long, 8 feet beam and 8 feet deep, very strongly built.

The Babcock & Wilcox tubulous boilers to be placed in the steamer Unique, will be the first ones of that type ever put into a lake craft. They will develop 1,500 horsepower, and some fine speed is expected to be shown by the Unique when she starts out next spring. Isaac Bearinger, of Saginaw, has ordered a 400-horsepower boiler of the same kind for his yacht Wapita, which is being lengthened at West Bay City by F. W. Wheeler & Co.

Harry G. Stewart, of Algonac, Mich., was married last week to Miss Tillie Warner, of the same place. Mr. Stewart has the distinction of being the only survivor of the celebrated Western Reserve disaster, August 30, 1892, when the big steel steamer of that name foundered during a storm, near Deer Park, Lake Superior, and twenty-one members of the crew and six passengers perished. Mr. Stewart was the wheelsman and was washed ashore eight miles above Deer Park, where the lifeboat containing nineteen of the crew capsized in the breakers and all hands were lost except Stewart.

SHEBOYGAN, WIS.

Special Correspondence to The Marine Record.

The Sheboygan fleet having all gone into winter quarters now, we publish the list herewith. Those lying at this port are: Tugs—Satisfaction and Sheboygan; Steamer—Susie Chipman; Schooners—Abbie, C. Amsden, D. Wells, Elva, H. D. Moore, Vega, Waleska, Lilly E., J. A. Holmes, Jos. Duvall, Petrel, L. E. Raesser, City of Grand Haven, Driver, Levi Grant, Pride, C. Gorden, R. P. Mason, J. H. Stevens, Sardinia, Rosa Belle, Seaman, Jennie Weaver, R. H. Becker, Mary.

Those of the Sheboygan fleet laid up at other ports are the schooner John Mee, and Eliza Day, at Chicago, and the schooner Wollin at Milwaukee.

The tug Lorine and the government dredges Nos. 1 and 2, are also laid up at this port.

Still in commission at this port, are the fishin g tugs Gunderson Bros., Artie Ward, Fearless, Elizabeth G., Louise M., Carrie Mathers, F. Koehn, Hoffnung Bros., and C. Currens.

TOLEDO, O.

Special Correspondence to The Marine Record.

Thursday evening, Lodge No. 9, of the Shipmaster's Association, gave its second annual ball in Odd Fellows' Temple at this port. The party was a success in every particular. The committee on arrangements comprised Messrs. E. G. Ashley, A. Goss, Jas. Skeldon, G. Sage and Al. Fitts. Some of those present were: Mrs. James Parks, of Detroit; Captain and Mrs. Fitts, Mrs. Joe Skeldon, Miss Elma Schultz, Miss Lula Nixon, Miss Emma Culver, Miss Lillie Monroe, Captain and Mrs. Harry Tyrie, Captain and Mrs. Sage, Captain and Mrs. Stevenson, Miss Birdie Fitts, Commodore and Mrs. Sullivan, Captain and Mrs. Rooney, Captain and Mrs. Herrick, Elizabeth Mattimore, Lena Zacharias, Mrs. Irving Hone, Jessie Dawson, Emma Culver, Captain and Mrs. Stalker, Mabel Adams, Frances Cunningham, Anna Harlow, Captain and Mrs. Vosburg, Nellie Bowen, Bertha Funk, Mrs. John Turner, Marie Miller, Captain and Mrs. Sherbno and many others.

MARINE CITY, MICH.

Special Correspondence to The Marine Record.

Vessels laid up at this port are as follows: Steamers—Tempest, No. 1, M. Sicken; Tempest, No. 2, Miami; Santa Marie, D. F. Rose; Cherokee, Mohegan; K. Butteroni, Salina; Abercorn, A. Summer. Schooners—W. H. Hawkins, E. L. Coyne, F. M. Knapp, Uranus, Roscious Maize, L. Casey, Keepsake, Horner, L. Sims, Delaware, Albany, Teutonia, N. Bloom, J. M. Hutchinson, St. Joseph, Melvina, J. Ralston, G. Whitney, C. Spademan, A. Richards, Dayton, Chippewa, E. J. McVea, Marine City, Boscobel, Buckeye State, Mingo.

ST. CLAIR, MICH.

Special Correspondence to The Marine Record.

The laid up list of steamers at this port comprise the Kalkaska, Langell Boys, O. T. Flint, M. Hopkins, Sparta, Bessie, S. Sheppard, Welcome, Bonita, Penelope, Navarch. Schooners—Mt. Blanc, E. C. Roberts, Golden Rule, J. W. Hanaford, Republic, Jay Bird, Louise,.

PORT HURON, MICH.

Special Correspondence to The Marine Record.

J. E. Mills, of this city, has traded the barge Jupiter to Capt. Dana, of Alpena, for a half interest in the barge City of the Straits. Mr. Mills will place his new purchase as a consort with the steamer Nelson Mills next season.

The Jenks Ship Building Co. are cleaning up their yard and are now figuring on building another barge to be ready by the opening of navigation.

The ship masters held their first meeting last Saturday. There was a full attendance. They have had rather a hard summer, but they will pull through and come out all right for next season's work.

The heavy repairs on the Belle Cross are being pushed along as fast as possible. When she comes out next spring, she will be in first-class shape with entire new cabins, pilot house forward and two pole masts.

K. M. R. Co.

NEW RAILWAY AND STEAMER ROUTE.

Capt. W. F. McGregor, of the steamer Mary H. Boyce, says the report recently made public from Grand Rapids to the effect that a new line of railway will be completed between that city and Grand Haven next summer, and a new line of steamers established between Grand Haven and Milwaukee the following winter is well founded. Capt. McGregor says that from Grand Rapids the line will be extended in the direction of Battle Creek in a junction with the Canadian Pacific railway, which will constitute the trunk line eastward. In other words, the Canadian Pacific people are about to consummate a long-cherished scheme to secure its share of the large east-bound winter business out of Milwaukee by water. Whether any effort is to be made to establish a regular summer passenger business after the railway connection is completed remains to be determined. The route between Grand Haven and Grand Rapids is a direct air line and ean be traversed in twenty-five minutes less time than it now takes the Detroit, Grand Haven & Milwaukee trains to traverse the distance. "The completion of the new road I consider an assured fact," said Capt. McGregor a day or two ago, but the announcement that the steamers Mary A. McGregor, Mary H. Boyce, C. A. Street, and Pentland will form a winter line in connection with it I am not prepared to substantiate. Ample dock room has already been secured at Grand Haven for the business of the proposed new railway and steamer line."

REPORTED BY THE LOOKOUT.

The Toledo Drydock & Coal Co. has libeled the steamer Germania for $4,000, with interest from March, 1893.

The steamer S. C. Baldwin will be rebuilt at Marine City this winter. She was sunk last summer by collision with the Iron Queen, and afterwards damaged by fire.

The keels for the two big car ferry steamers for the United States & Ontario Steam Transportation Company will be laid at the Craig Shipbuilding Company's yard at Toledo this week.

The Wisconsin Central Ore docks at Ashland are to be raised eight feet to conform to increase in size of lake steamers. The Chicago & Northwestern docks are to be raised and extended 300 feet further into the bay.

The Ogdensburg Line steamers are wintering as follows: The Gov. Smith, F. H. Prince, and H. R. James are at Chicago, and the J. R. Langdon, W. L. Frost, W. J. Averill, W. A. Haskell, and A. McVittie are at Ogdensburg.

Thirteen cars of ore were ferried across Lake Michigan from Menominee last week on the Ann Arbor Railroad's steam car ferries, and sent the rest of the way from Frankfort to Cleveland by rail. The rate was $1.60 per ton.

Gordon H. Nott, civil engineer, of Chicago, is making a big fight against the big drainage canal at Chicago, which he considers a stupendous humbug, and figures will reduce the depth of water in the lakes and connecting rivers about one-fourteenth. This would reduce the depth of the 21-foot channel to 19½ feet, and be quite a serious matter to the interests of navigation.

Capt. Fred A. Rae, of the steamer Lewiston, having laid his vessel up in the lower harbor for the season, left on the 3:40 train yesterday afternoon for his home in Vermillion, Ohio. The captain's kind words and genial manner have won him many warm friends in Ogdensburg, who have bidden him God-speed with no small degree of regret, and with the hope that with the coming spring they may again be permitted to greet him on his return.—*Ogdensburg Journal.*

There was only a fair attendance at the annual meeting of Milwaukee Lodge, No. 6, Lake Shipmasters' association on Friday last. The lodge is in a flourishing condition generally. Its membership numbers seventy. The election of officers for the ensuing year resulted as follows: President, Capt. Charles M. Davis; first vice president, Capt. John Wright; second vice president, Capt. James Bruce; treasurer, Capt. Fred C. Starke; secretary, Capt. John McSweeney; trustee for three years, Capt. Henry Leisk. The next meeting of the lodge will occur on Thursday evening, December 27, and thereafter throughout the winter.

IN WINTER MOORINGS AT CLEVELAND.

The list of vessels wintering at Cleveland will number over one hundred when the several steamers yet sailing are tied up. The following is the list now in winter quarters: Andaste; Benham, C. E.; Cadillac; Cambria; Castalia; Chisholm, William; Choctaw; Coffinberry, H. D.; Continental, Corona, Corsica, Devereaux, J. H.; Fay, J. S.; German; Globe; Gowen, A.Y.; Griffin; Hale, E. B.; Hall, S. C.; Joliet; Kaliyuga; Kershaw; Ketchum, V. H., Keystone; LaSalle; Manola; Marina; Mariska; Maritana; Maruba; Masaba; Matoa; Minch, Philip; Mitchell, Samuel; Nahant; Nicholas, I. W.; Northern King; Northern Light; Olwill, M.; Olympia; Oregon; Pease, E. S.; Pioneer; Pontiac; Presley, George; Republic; Riverside; Saxon; Sheriffs, Jim; Sitka; Specular. Spokane; State of New York; State of Ohio· Superior; Swain, V.; Wade, J. H.; Wallula; Wawatam; Yakima. The list of consorts and sail is as follows: Aberdeen; Baldwin, H. P.; Becker, W. D.; Biwabic; Blood, Senator; Brenton; Bruce, B. F.; Cleveland, H. G.; Duff, Nellie; Flint, Sam; Fontana; Gerger, F. A.; Gerlach, Eliza; Hallaran, R.; Holland, Grace; Johnson, C. H.; Kimball, S. H.; Lone Star; Magnetic; Marsh, P. S.; Minch, Sophia; Moonlight; O'Neil, John; Planet; Quayle, Thomas; Redington, Nellie; Rhodes, D. P.; Rogers, A. J.; Root, H. D.; St. Lawrence; Sagamore; Sandusky; Selkirk; Wadena; Wesley, G. W.; Williams, E. R.; Wyandotte; 116. Rival Julia Willard.

The tonnage of the fleet aggregates 174,000 tons, giving a mean of 1740 tons for one hundred vessels, a rather large fleet for one lake port to shelter.

ADDRESS OF THE PRESIDENT OF THE AMERICAN SOCIETY OF CIVIL ENGINEERS.

(BY WILLIAM P. CRAIGHILL.)

There is another most important element in our defensive system which deserves extensive development, and fortunately public attention seems to be turning very much in that direction. I refer to the ship canal.

Our Atlantic and Gulf coast is so very long that the interior line of the water-way parallel to it, which could hardly be made so easily, is of very great importance. Its advantages are great from the commercial point of view in time of peace, and in time of war with a great maritime power its usefullness to our naval and merchant marine would be incalculable.

The interior water route parallel to the Atlantic and Gulf coasts would enable the navy to pass rapidly and freely from point to point even if the coast were blockaded, and thus, as it were, multiply itself.

Take, for instance, the advantages of a ship canal connecting the great bays of the Chesapeake and the Delaware. It would enable a single fleet to be prepared to promptly meet an enemy threatening either of these bays, and while waiting for his plans to develop, it could remain in a secure harbor in the canal, from which it could readily emerge in either direction when necessary.

The recent experiment made by the torpedo boat Cushing in passing by the inland route from Washington to New York is very interesting. South of Washington nature herself makes the way for its easy continuance at small cost.

A very interesting description has lately been sent to me by Mr. Marshall Parks, of Norfolk, Va., of a voyage of a little steamboat called the Germ, more than fifty years ago from Norfolk up Chesapeake Bay, through the canals to the Delaware and Hudson Rivers, up the Hudson, into the Erie Canal as far as Syracuse, up to Oswego and out upon Lake Ontario. This little boat, the Germ, was 50 feet long, 8 feet beam, with a draft of 3 feet.

The voyage of the Cushing has shown that even with our present canals and interior water-ways, torpedo boats could be concentrated at any point of attack without going out to sea, and, of course, be free from molestation from the ships of the enemy. But the widening and deepening of these inside passage-ways to an extent sufficient to carry our new cruisers and iron-clads to any city that might be threatened with attack is a matstill more important.

For the Chesapeake and Delaware Canal very elaborate surveys were made in years past under my supervision, and full information presented to congress, but nothing has yet been done. It is a question which, in a commercial sense, interests western shippers by offering a shorter, cheaper and less dangerous route to Europe, and also those engaged in coastwise commerce; while to the army and navy, by giving unimpeded movements to fleets, to troops and munitions of war, such interior ways would present advantages that have long been recognized by both naval and military men.

The people of Philadelphia are also fully alive to the importance of the inland canal between that city and New York. In time of war it would enable the government to move its fleets from the mouth of the Delaware to New York in perfect safety. Then, if the Chesapeake and Delaware Canal were also made into a ship route, Norfolk, Washington and New York would be in close communication with one another. If the water front should be beleagured by an enemy, this inside line would become almost invaluable. As for merchant vessels, there would be no storms for them to encounter, no possibilities of shipwreck. They would be in land-locked waters all the time.

England works assiduously at her water line from the mouth of the St. Lawrence to the interior of her immense North American possessions, and we can find no fault with her for that, but we should not be outstripped by her in that quarter. We should also have a great canal to connect the lakes with the Mississippi. A very important link in our interior system is also the great canal which begins near us at Buffalo, but it should be made deeper and otherwise improved.

But most important of all to us is a trans-isthmian canal under our own control, to shorten the distance by water from our Atlantic and Gulf coasts to the Pacific. This is no new idea. As far back as 350 years, or soon after the discovery of America, although the Spaniards had an established communication across the isthmus, an easier passage-way was demanded and the project was conceived of constructing an artificial water-way by one of the three routes, Tehuantepec, Nicaragua or Panama, whose relative advantages have been dilligently discussed at intervals ever since.

A most important step forward was made in this matter when President Grant appointed a commission in 1872, consisting of several able men, to consider the subject of communication by water between the Atlantic and Pacific Oceans. After careful study this commission reported in favor of the Nicaragua route, and nothing has occurred to show that they were not right in their conclusions.

President Hayes, in 1880, presented the subject tersely and forcibly in the following words:

"An interoceanic canal across the American isthmus will essentially change the geographical relations between the Atlantic and Pacific coasts of the United States, and between the United States and the rest of the world. It will be the great ocean thoroughfare between our Atlantic and Pacific shores, and virtually part of the coast line of the United States. Our merely commercial interest in it is greater than that of all other countries, while its relation to our power and prosperity as a nation, to our means of defense, our unity, peace and safety, are matters of paramount concern to the people of the United States."

A recent writer uses the following strong language:

"Of course a canal under American control will divert part of our strength for our defense, but considering the position of the water-way, forming, as it will virtually, a portion of our own coast line, this amounts simply to adding one more port to those already existing on each of the Atlantic and Pacific coasts. Such ports should strengthen rather than weaken the naval defense, since both may be converted by land works into strong harbors of refuge and naval bases, or coaling stations which we greatly need."

It may be considered as certain that the Nicaragua Canal will be opened before many years have rolled by. If it be not done by the United States, it will be by England or Germany. Let us hope that our legislators will not permit such a thing to happen to us as its control by a foreign power.

It is not unlikely the overland railroads prefer that this water-way be not opened, under the misapprehension that it would injure their traffic, yet everyone who has made a study of the general subject, already ably presented by many, feels assured that the construction of the canal would build up all of our overland railroad interests by developing production that cannot now have a profitable market, as the railroads cannot afford to carry such bulky and heavy freight at a living rate to the producer.

I do not claim to be a prophet, but the day seems to me not very distant when the United States will construct and own and hold a ship canal by the Nicaragua route. The future will surely bring ridicule upon the United States if any other power be permitted to control the Nicaragua Canal.

THE SHEBOYGAN SHIPYARD.

About a month ago the Chicago & Northwestern Ry. Co. notified Rieboldt, Wolter & Co. to vacate the real estate occupied by their shipyard and shops at Sheboygan. The firm having failed to comply, a further notice allowing three additional days' time for vacation has been served by the sheriff. No attention will be paid to the demand and litigation may result. It is understood that the C. Reiss Coal Co. has leased the territory in question for an extension of their coal business. The Sheboygan *Journal* states that Rieboldt, Wolter & Co. will go to Sturgeon Bay with their entire plant if the city does not donate them a plat of ground sufficiently large to enable them to carry on their business. Capt. Conrad Starke, of Milwaukee, is the "company" of the firm. It is only fair to state that Mr. Rieboldt contradicts the foregoing entirely. Mr. Joseph Wolter says that the statement is without foundation and probably originated from the fact that several squatters have been notified to vacate the railway company's property adjoining the shipyard. Rieboldt, Wolter & Co. own a frontage of 100 feet on the main river with a depth of 1,000 feet which the coal handling firm of Reiss & Co. wish to obtain for an extension of their rapidly increasing business and upon which they now hold an option at a purchase price of $16,000. Mr. Wolter is of the opinion that if the deal is consummated the real purchaser will prove to be the railway company. The principal item of shipyard work now in hand at Sheboygan is the reconstruction of the government tug Lorina and one of the government dredges, also the calking of a second government dredge wintering there. This work will cost between $7,000 and $8,000. Bids have been submitted for several other jobs for this winter.

CRYSTALIZATION OF IRON.

In an article on the crystallization of iron, published in the *Engineering and Mining Journal*, H. M. Howe holds that a crystalline fracture is no evidence, but at best is only a suggestion, of crystalization as that term is usually understand. For the benefit of masters and engineers sailing iron and steel vessels we reproduce Mr. Howe's remarks upon this subject in which he states, A stress which if appplied but once will be harmless, if applied repeatedly may break iron whether it be accompanied by vibration and shock or not; and the fracture thus caused is often far more crystaline than that formed under the usual conditions of rupture. Does the deterioration which thus eventually causes rupture consist in a crystalline rearrangement of the particles of the bar? Is it something which we can properly call crystallization? Or is it of some other type, and are the crystalline fractures thus sometimes observed due. not to crystalline rearrangement, but to our having diverted rupture from its usual path to one along relatively large pre-existent crystalline planes?

We knew that if we nicked a bar of iron on one side and bent it away from the nick it would break with a fibrous fracture, while if we nicked the same bar completely around end struck it a sharp well-directed blow it would break with a crystalline fracture, often without suggestion of fibre. This familiar and simple experiment showed us most strikingly that the path which rupture follows varies widely with the conditions under which rupture occurs. The character of the fracture, then—its fibrousness or crystallineness, may be influenced profoundly by the mode in which the bar is broken.

Now, when our blacksmith nicks our bar all around instead of on one side only, and when he then breaks it with a sharp blow, it is hardly to be supposed that he has thereby altered the nature of the iron. The crystalline structure which he has thus substituted for the usual fibrous fracture of the metal, we refer unhesitatingly to the special conditions of rupture which he has introduced. He has divertcd rupture from its accustomed circuitous fibrous path to a more direct granular one.

Under repeated applications of a severe stress a crack eventually starts in the outside of the bar, and gradually creeps inward till rupture occurs. This gradual creeping inwards after the crack has once started we can readily understand. But during the repetitions of stress which preceded the beginning of this crack, something—some deterioration, some exhaustion of toughness—had occurred, for otherwise this crack would not have started. Had there been crystallization, i. e., had the particles of metal rearranged themselves so as to reduce their cohesion? Or had there been simply "shattering," or progressive enfeebling of cohesion? along certain planes, or some other rupture-favoring change, without change of position among the particles of the bar? "Shattering" is not the word I want, but I can find no better. Let us clearly recognize this difference between crystallization which necessarily implies change of position of the particles themselves, and "shattering," which simply implies that cohesion has been lessened. If I hammer a piece of granite heavily I weaken its adhesion; I shatter it; long before it shows visible cracks, my blows have weakened it; but I shall simply have shattered it, I shall not have crystallized it.

To sum up the condition of our knowledge prior to the present discussion, it had been shown that repetition of stress destroyed iron, but not that vibration as such affected it. The destruction appeared to be shattered immediately about the path of rupture. To describe this action as the crystallization of iron through vibration would clearly be misleading, a gross misuse of language. Those who said that vibration crystallized iron, thought, meant and were understood to mean a wholly different condition of affairs.

The crystalline fracture sometimes caused appeared to be due, not to any crystalline change in the metal, even immediately about the path of rupture; but it simply implied that under these special conditions of rupture followed a special path, along relalively large pre-existent faces.

MARITIME LAW.

HAWKINS vs. THE HATTIE PALMER.

U. S. District Court Southern District of New York.

CONVERSION—FAILURE OF VESSEL TO DELIVER GOODS—WILFUL REFUSAL OF CONSIGNEE TO RECEIVE THEM.—Where a consignee knew that goods were coming to him, but made no provision to receive them, it was held that the vessel was under no obligation to provide a storehouse or guard, but was justified in retaining the goods on board, she at the same time sending word to the consignee that they would be delivered on the vessel's return trip on the following day. On that day the consignee failed to have any one present to receive the goods, which were therefore allowed to remain on the vessel for still another day; the next day the consignee libelled the vessel, claiming a conversion. The court found that the failure of the consignee to receive the goods was wilful, and hence, Held, that there was no conversion of the goods, and that the libel should be dismissed.

HASTORF vs. MAYOR, ETC., OF NEW YORK.

U. S. District Court, Southern District of New York.

NEGLIGENCE — BREAKING ADRIFT OF PERMANENT STAKE BOAT—DAMAGE TO SCOW FASTENED THERETO—ANCHORAGE.—On the night of the 20th or 21st of April, 1893, the permanent stake boat in Gravesend Bay used by defendant as a place for tying up scows before they were taken to the dumping grounds at sea, drifted from her anchorage ground during a gale, carrying with her several boats attached thereto including libellant's scow. The records of the weather bureau showed that the gale was not of unusual severity; when the stake boat was picked up it was found that the anchor chains were entangled with the flukes of the anchors; the evidence showed that reasonable prudence required that a scow moored for such purposes, should have her anchor and their position carefully examined after the outflow of the ice of each preceding winter, which had not been done in this case. Held, that the cause of the accident was defendant's neglect in so failing to examine the anchors and that such neglect rendered them liable to libellant for his loss.

Supreme Court of the United States.

COLLISION—STEAM VESSELS CROSSING—FAILURE TO REVERSE IN SEASON—DUTY OF PRIVILEGED VESSEL TO MAINTAIN SPEED.—The steamship Breakwater was coming up the North River against a strong tide and wind about 400 feet from the ends of the piers and had reached a point about opposite Barclay street, when the ferry boat Pavonia started out from her slip at the foot of Chambers street, under a hard-a-port helm and blowing the long warning whistle required by law. The Breakwater blew one whistle to which the Pavonia replied with one, and the later afterwards gave another single blast. When the Pavonia received the signal from the Breakwater, her engine was put full speed ahead and so continued until the collision. The Breakwater stopped her engines on her first signal and on the Pavonia's second whistle, the Breakwater increased. The ebb tide and the wind carried the Pavonia somewhat down stream, and the vessels came to a collision, the Breakwater striking the port side of the Pavonia. Held, that the Breakwater was in fault because she was bound by rule to avoid the Pavonia which was on her starboard hand, and because being close to the shore, and in the vicinity of ferry slips. She should have anticipated the approach of the Pavonia, and the effect upon her of the tide and wind, and should have reversed on her first whistle instead of merely stopping. That there was no fault in the Pavonia, being a ferry boat and running on schedule time, for leaving her slip under the circumstances, even in view of the approach of the Breakwater and that she was bound thereafter to keep her course and speed as she did, more especially in that wind and tide. The Breakwater was therefere held solely liable.

SUBMARINE CABLES.

There are now twelve transatlantic cables connecting Europe with Canada and the United States, and steps have been taken to lay a cable across the Pacific from British Columbia to Australasia, by way of the Fiji Islands. The circle of the earth will then be completed, but not so directly as would be by cable from America to Japan.

There are now 152,000 miles of submarine cable, in round numbers, of which 10 per cent. have been supplied by various governments and the rest by private enterprise. They connect into one system over 2,000,000 miles of land wires, ramifying in different countries. The cables have cost about £40,000,000 sterling, but the money has been well spent, for the benefits of the telegraph are incalculable.

It controls the commerce of the world, which has risen to nearly £4,000,000,000 sterling a year, or more precisely £1,940,000,000 sterling of exports and £1,720,000,000 sterling of imports. It enables international disputes to be settled without recourse to arms, as in 1881, when the British cabinet was in direct communication with the Boer leaders of the Transvaal. It brings a war that has broken out to a speedy conclusion, and keeps the public informed as to its hourly progress, as in the case of Egypt, where the bombardment of Alexandria was known in London a few minutes after the first shot was fired, and telegrams were dispatched from the battlefield of Suakim, in the Eastern Soudan, while the fight was going on.

Above all, by putting the remotest parts of the world in contact with each other, it tends to destroy barriers of isolation and prejudice, making antipathy give place to sympathy and hatred to loving kindness.—*Detroit Free Press.*

THE CAMPANIA'S NEW RECORD.

The Cunard Line steamship Campania, from New York December 15, arrived off Daunt's Rock, December 20, having made the passage in five days, nine hours and 18 minutes, thus beating her best previous record—five days, ten hours and 47 minutes, made August 31, last—by one hour and 29 minutes. The Campania was signaled off Browhead and special arrangements were made at Queenstown to receive and dispatch her mails to London. The Campania's average speed during the voyage was 21.29 knots per hour. Her daily runs were 45, 517, 507, 508, 510 and 507 knots. For the time between noon December 20, and her arrival off Daunt's Rock, 223. She came within 40 minutes of equaling the best eastward record, made on September 14, last, by her sister ship Lucania, which made her passage in five days eight hours and 38 minutes.

SEASON COMMERCE THROUGH PORTAGE LAKE SHIP CANAL.

A comparative statement of commerce through Portage Lake ship canals, Michigan, for the season of 1893 and 1894, as furnished by the annual report of the district engineer is as follows:

Items.	Destination	Seasons. 1893.	Seasons. 1894.	Increase	Decrease
Vessels.....	Number	1,408	1,724	316	.....
Tonnage,reg	Net tons	669,510	860,618	191,108	.....
Coal	" "	254,705	332,862	78,157	.....
Flour	Barrels.	200,548	651,396	435,848	.....
Grain	Bushels.	38.264	10,900	.....	27,364
Mfd. Iron...	Net tons	8,946	7,179	.....	1,767
Salt.....	Barrels.	23,985	29,398	5,413	.....
Limestone ..	Net tons	9,356	12,365	3,009	.....
Copper.....	" "	64,412	72,389	7,977	.....
Bldg. stone..	" "	1,180	1,096	.....	84
Iron ore.....	" "	400	2,301	1,901	.....
Pig iron	" "	3,189	752	.....	2,437
Lumber	M.ft.b m	42,863	84,848	41,985	.....
Miscellane's	Net tons	83,172	104,291	21,122	.....
Total cargo.	" "	532,628	754,973	222,345	.....
Passengers .	Number	27,084	32,636	5,552	.....

The above table does not include tugs which do an extensive business in towing rafts, vessels and scows loaded with wood, hay, etc.

As showing that the canals are now being used by a much larger class of vessels the four largest of 1893 are given in comparison with the four largest of 1894, as follows:

Season of 1893. Names.	N. Tonage.	Season of 1894. Names.	N. Tonage.
Avon.....	1,539	Globe.....	2,996
J. H. Wade.....	1,502	North Star.....	1,885
Portage.....	1,451	German.....	1,875
Montana	1,383	Gladstone.....	1,812

The larger size of vessels using the canals is shown by the table giving the four largest vessels passing through in '93 and this year. With a sixteen foot channel a still greater through traffic of Lake Superior tonnage will pass through Portage Lake and the consequent lowering of rates through better time being made in handling cargoes will be of great value to the entire North-west.

TUGS AS FIRE BOATS.

Chicago's fire department will be equipped with a fleet of ten fire tugs before the end of spring which are expected to furnish ample protection to the lumber-yard districts. The boats are to be selected from those now on the river, and while their regular business will not be interfered with each will be a part of the city's fire-fighting force and directly under the orders of Chief Swenie. Lumbermen started the movement and by their subscriptions largely the fleet is to be equipped, although property owners along the river are to be given an opportunity to support the enterprise. It is expected that premiums on fire risks will be very much reduced by this patrol-tug service.

IMPROVEMENTS OF RIVERS AND HARBORS ON LAKE SUPERIOR.

The U. S. Engineer in charge of the improvements and the conservance of rivers and harbors on Lake Superior and especially at the head of lake navigation, is Major Clinton B. Sears, Corps of Engineers, U. S. Army, and his work for the past fiscal year deserves the highest commendation from all interested in maritime pursuits within the district.

Major Sears is in charge of a most important division in so far as lake commerce and navigation is concerned and no little credit is due this energetic and well advised official for the comparatively excellent condition and the many recent improvements found at the Lake Superior ports. In this connection it is well to understand that the district engineer officer can but carry out to the best of his ability the improvements authorized by congress nor is it his province to be in any way aggressive in the advocacy of extensive national works involving large appropriations, rather is such a consummation left in the hands of the people and their representatives at congress who must establish their claim to federal consideration by showing the volume of commerce and other transportation interests, etc., certain to be benefited and to the advantage of the country at large if the desired changes, additions or improvements to existing river and harbor conditions are carried out through congress granting an appropriation from the nation's coffers. Before this showing can be made, however, the district engineer is invariably requested to make a report on the intended work and it is first perhaps at this stage of the proceedings where the professional skill, business acumen and general ability to grasp probable future commercial developments may be said to require the best consideration which the engineer can bring to bear on the subject and the result of which is usually the key note for future congressional action which, if favorable the officer is in a position to carry to a successful issue the changes authorized by congress.

It is not to be understood from the foregoing that the U. S. officer in charge of river and harbor improvements within any specified district is to remain neutral on these subjects until public action has been taken. It is one of their paramount duties to conserve the best interests of each port within the district and to render to the Chief of Engineers at Washington a minute, inclusive and valuable annual report of all work committed to their charge and such further recommendations as may come within the scope of their professional and official cognizance. In this connection the corps of engineers not unfrequently stand between the action of grasping monopolists and the best interests of the people, viz., the citizens of the country at large, while on the other hand, improvements required by a well advised majority are carried out under the supervision of the best talent which the county can produce in an economical manner and outside the pale of partisan or political influences.

Glancing over the work placed in charge of Major Clinton B. Sears for the past fiscal year it is found that the harbors at Grand Marais, Minn., Agate Bay, Minn., Duluth, Minn., Superior and St. Louis Bay, Wis., Ashland, Wis., Ontonagan, Mich., as well as the Eagle Harbor, Mich., Waterway from Keweenaw Bay to Lake Superior, Michigan, Marquette, Mich., Harbor of refuge at Grand Marais, Mich., are each reported on in a masterly and inclusive manner, furthermore, new harbor lines have been established at Superior Bay, Wis., and in addition valuable commercial statistics are furnished from each port with tables of tonnage entering and clearing during the year.

THE MARINE RECORD

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CLEVELAND, O., DECEMBER 27, 1894.

LAKE tonnage is always sailing on parallel or opposite courses, hence the passing signal in fog is exactly what is required for lake navigation.

WONDER if any other port in the world has such measly facilities for shipping as Cleveland with its $175,000,000 invested in the iron ore business.

THE first snowfall of the season set in on Wednesday night and continued until Thursday morning. This is likely the forerunner of the ice king's reign on the lakes for at least ninety days.

A NEW west pier at Cleveland, built of concrete, fitted with mushrooms, mooring posts and capstans for vessels to warp and tie up to is wanted for the $18,000,000 and 235,000 tons of vessel property owned at that port.

THE Inland Lloyd's Register, for 1894, made an excellent departure in reducing valuations on vessel property but so much can not be said relative to its cutting down the size of its publication and discriminating against the smaller and lowest class of lake tonnage.

WHY not begin condemnation proceedings on the water frontage at the principal lake ports and facilitate the commerce now seeking to expand. A dock and harbor board authorized by the state legislature and elected by the municipality or appointed by the mayor, is becoming ndispensable.

THE lists of wrecks and casualties on the lakes for this season published in the daily papers is erroneous and generally misleading. The Milwaukee *Wisconsin* comes the nearest of all in making up the aggregate of losses, although a number of minor casualties are omitted trom its otherwise perfect list. THE RECORD has an inclusive record of lake disasters for the season which we will be pleased to furnish subscribers in our next issue.

PASSING signals in fog are not allowed in lake navigation, nor anywhere else for that matter. The difference, however, between lake navigation in this respect and the rest of the world is that the nonsensical tooting for passing signals must be observed in clear weather when there is no danger to be avoided. As well might a driver lean out of his buggy or carriage and holler to another what he intends to do or where to drive, as a steamer to signal by whistle in clear weather that she intends to conform with the "rules of the road."

WE pointed out a few years ago, and many times since that if the inspector general of the United States steamboat inspection service would not formulate rules for the safe navigation of lake vessels, private interests would be compelled to take the reins out of his hands and furnish a code of their own. This departure has now been made and a representative committee on steering and sailing rules for the lakes is likely to put the so-called rules of the board of supervising inspectors of steam vessels on one side.

MUTUAL MARINE INSURANCE.

As usual at this season of the year the question of starting an insurance company by vessel owners makes its appearance, but this year owing to what are considered by some owners arbitrary rulings of the underwriters the scheme seems to be assuming a more definite shape. Admitting what seems to us almost impracticable the ability to conduct a business more or less bound to run counter to the wishes of the owners, would it not be prudent to look into the insurance conditions before starting a new venture, untried, unknown for that matter, and doubtful in its results of practical benefit to owners.

We find on investigating the subject that at least one-third of the lake marine was insured last season outside of the lake companies, being absorbed either in American companies not represented on the Great Lakes, or with London Lloyds or other foreign insurance capital.

It is hardly to be expected that the intervention of foreign capital which has increased its writings from a small beginning a few years ago to its present extent, will cease its efforts, but will on the other hand increase its field, so that it is within bounds to state that fully one-half of the large valued boats will be placed outside of the regular lake companies another season. The lake companies naturally will not submit to such a diversion of what to them is a very considerable portion of their premiums, and it is quite within the province of THE RECORD to predict a tariff on the part of lake underwriters for 1895, embracing solely the undesirable so-called tonnage, the A 2 and lower classes, leaving the higher classes for a free-for-all competition. Many owners appreciated this fact last season and placed their interests in a way to show a material saving, their example will no doubt be followed by others next season, and the business of lake hull underwriting will be changed more and more from year to year until old methods and customs are eliminated, and insurance affairs conducted in a similar manner to that of other large merchant marine centres.

The business of the Great Lakes is taking enormous strides and has attracted the attention of capital located at remote points, and THE MARINE RECORD is glad to be able to state that the insurance interests seem to be fully awake to the situation and determined to grant fuller protection to the assured at rates made as low as experience indicates can be named. It would seem then that the question of the formation of an insurance interest by and for the owners might safely be held in abeyance until owners individually had made a personal canvass of the possibilities for protection, not alone with foreign capital, but with capital regularly engaged in and represented on the Great Lakes.

MORE CAR FERRIES.

The action of the Pittsburg, Shenango & Lake Erie Railroad in placing a contract for two car ferries for carrying coal across Lake Erie from Conneaut, O., to Canada may lead to some important developments. The use of car ferries would be more seriously felt perhaps, by the Lake Shore than the New York Central, in the matter of losing traffic for Canada that now reaches Buffalo and is forwarded via Suspension Bridge. This is particularly true of coal especially that which is sent over the Pittsburg & Lake Erie, giving the Lake Shore the long haul from Ashtabula to Buffalo and to be deprived of this means the loss of a large revenue, so that the Lake Shore may be expected to take some steps to protect its interests in this regard, and meet the formidable competition of the P. S. & L. E. line that is sure to be felt when the plans of the latter have fully matured.

PROPELLER WHEELS.

Some discussion having arose relative to the merits of propeller wheels it is perhaps advisable to touch lightly on this interminable subject by quoting actual experiences for the benefit of those who may not have given the subject any special study.

In Seaton's "Manual of Marine Engineering," page 44, it says: "Two notable examples from among a great many will illustrate how the efficiency of the propeller may vary. H. M. S. Amazon originally fitted with a four-bladed Mangin screw, ran 12.064knots on the measured mile with 1,940 indicated horse-power. This result was deemed very unsatisfactory, and immediately afterwards a two-bladed Griffith screw was fitted, with which the ship made 12.396 knots with only 1,663 I. H. P. Many years after this H. M. S. Iris failed to obtain the speed for which she was designed, doing only 16.577 knots with 7,503 I. H. P. with a four-bladed screw; but with a two-bladed Griffith's screw 18.587 knots was obtained with 7,556 I. H. P. or two knots an hour more with the same power.

Now, in both cases four-bladed propellers were replaced by two-bladed Griffith's, and so it may be urged that it was the superior form of blade and the number of blades which made the difference; but in the merchant service four blades is the rule and the Griffith's form is by no means universal.

There was, however, one other point in common with the alterations to the two ships, viz.: the pitch was increased when the Griffith's blades were fitted so that the engines did not make so many revolutions per minute in the case of the "Amazon," and the nnmber of revolutions per knot in the case of the "Iris" was less than before. This is a point very generally overlooked, and the whole of the improvement effect instead of a part only is thereby placed to the credit of the propeller.

"SOME one is advocating the enactment of a law making it compulsory for all sailing vessels and consorts on the lakes to carry a bundle of rockets for distress signals," remarks the Cleveland MARINE RECORD, which, however makes the comment that: "There is not the slightest need for any such a departure, as they would increase the danger where carried and in nine cases out of ten they would probably be too damp to burn if required." If this most remarkable argument were applied to seagoing vessels, what would be the result? And how much greater would be the danger of such lights becoming damp on lake vessels than on deep sea craft? The value of rockets as night signals on board ship has been proved so repeatedly that it is a matter of wonder that lake vessel masters and owners do not supply themselves with them without the necessity of a law to force them to. Any salt water navigator who would object to carrry them would be designated an old fossil.—*Marine Journal N. Y.* Now with all due respect to the barnacle-backed sprightly flat foot that pushes the pen for our New York contemporary we have simply to say that there is no use or custom whereby lake tonnage should fly off at a tangent and use pyrotechnic displays under any circumstances. We, the editorial we, might learn something if Capt. Norton would point out where and when lake navigators should fire off rockets. Perhaps he would have us salute every passing station and keep up the display room Fort Gratiot, Mich., to Amherstburg, Ont. The fact is, that salt and fresh water won't mix any more than oil and water, either fresh or salt, and as regards night signals, a piece of oakum saturated with kerosene and waved from the end of a three feet stick, or flames from a burning tar barrel, or anything equivalent thereto, gives lake tonnage all of the distress signals they require, in fact, any lake navigator or pilot who in his requisition list would insist upon carrying a useless quantity of powder in any form, should, as he certainly would, meet with an imperative dismissal from the firm he sailed for. Furthermore, when the *Marine Journal* undertakes to attack the utterances of THE MARINE RECORD it should have some probable or reasonable grounds for taking exceptions thereto and and not vaporize about what it actually and distinctly knows nothing at all about. THE MARINE JOURNAL may be a New York organ but it is by no means capable of dictating rules for the safe navigation and conduct of lake or international tonnage, at least so far as our knowledge runs.

SENATOR PERKINS, of California, spoke to the point in the Senate, last week, when he stated that "the cost of operating American vessels is from 30 to 40 per cent. more than the operating cost of vessels under other flags. We pay our seamen from 30 to 40 per cent. more than those in British, German and Norwegian vessels receive. We pay more to our engineers and firemen on steamships and on all the vessels connected therewith. In all of the states, except New York, Pennsylvania and Delaware there is a state, county and municipal tax levied upon vessels belonging to the United States the same as there is on other property. There are only three or four of the other states, as Massachusetts, Alabama and Connecticut, that discriminate in favor of vessels engaged in the foreign trade. They are not obliged to pay state, municipal

or county taxes. A vessel has none of the protection that is given to the ordinary citizen. In case of fire on board of a ship the vessel may be thousands of miles from the shore. Municipal taxes are levied for police duty, for lighting streets, for cleaning them, and other municipal purposes. None of these privileges are shared in by the vessel when plowing the ocean. It seems unjust. Nevertheless it is the law." The senator might also have added that a new burden has been imposed on vessel owners by the present congress in the form of an income tax which, in the case ofvessels either in the home or foreign trade, is, perhaps,the most justifiable of the pains and penalties which a citizen must endure for having his name on an American vessel's register and no others ought to be enforced. A federal tax on net earnings only, as we have intimated, is the only equitable tax for vessel property.

A CORRESPONDENT takes the Hon. W. J. White, congressman from the twentieth district, severely to task for refusing to sign a minority report against the Fithian 'Free Ship Bill." We are not in a position at this time to state whether Mr. White is justly or unjustly accused of such a dereliction of legislative duty, nor can we believe that so good a business man as the representative from the twentieth district, would desire to see our shipbuilding industry suffer at the hands of foreigners through the provisions of the Free Ship Bill becoming a law. It should perhaps be more distinctly understood that the Fithian bill is worded so as to exclude foreign built tonnage from participating in our coasting trade, but this wording has been pronounced as a snare and utterly deceitful, for a vessel having once secured American registry is entitled to all of the privileges of the flag. There can be no system of qualified protection given to a vessel under the "stars and stripes" any more than the qualifications of the rights of citizenship may be abrogated in part. The vessel, the same as a citizen, must have full and complete protection and enjoy every privilege known to the flag and such a measure would, of course, open up our coast, lake and river trade to foreign shipbuilding yards the world over besides with the low price of labor paid abroad there is no question but that vessels can be turned out at a less cost, though we are not prepared to say how much less, in foreign shipyards than they can be completed for in the United States.

THE examination of candidates for engineers', pilots, and masters' licenses in the United States mercantile marine ought to be made progressive and it would be if competent men "ruled the roost." One of the greatest features in the retardation and retrogression of the nation's merchant marine is in the lack of professional ability required in the examination of a licensed officer. The profession once grounded in the composition of a man, as it would be if excellence in attainment was made absolute, would chain him through life to his hard-earned honors, and not as it is now, all hands desiring to escape from a half-studied business and seek shelter in a mediocre position on shore rather than pursue their calling.

THE navy department has sent out specifications and proposals for the building of three torpedo boats. These vessels are small enough to be taken through the St. Lawrence system of canals and one or more ought to be built on the lakes. There is an old time treaty with England in the way, however, and following the terms of this agreement no war vessels can be constructed on the Great Lakes. According to the strict letter of the law the launching of a mass of steel ought not to be construed as a violation of the foregoing agreement and that is about all which the hulls of these torpedo boats would represent until they were at least partly or fairly equipped, work which would be done after they left the lakes.

THE fueling question will come up again at the annual meeting of the Lake Carriers' Association. The coal shipper that charters a vessel has been in the habit of providing her with fueling coal and charging a higher rate for it than the actual market value of the commodity. This custom is now being regarded as a species of blackmail and has for the past year or two been strenuously protested against. Vessels are now being sailed so close to the wind in their expense accounts that the extra cost of fuel has been keenly felt in the season's earnings.

A FISHING TUG CONFISCATED.

An important judgment was rendered by Judge MacDougall, of Toronto, in the District Admiralty Court last Thursday in the action by the Crown for the condemnation of the United States fishing tug Grace, of Dunkirk, N. Y., for violating the Canadian Fisheries act. The tug was seized by the Dominion Government cruiser Dolphin last April, while fishing in British waters in Lake Erie, about eight miles from Port Colborne, without Canadian license, and was taken into Port Colborne and tied up. The owners of the vessel denied any violation of the fishery laws. The three-mile limit, which applies to ocean fisheries, was urged to apply to the lakes also. Judge MacDougall delivered an elaborate judgment, deciding that the law of nations recognizes the authority of a State to claim territorial rights in respect to so much of all inland lakes as lies within its conventional boundaries, and that the tug Grace was fishing wholly within the Canadian waters. He therefore gave judgment for the Crown, with all costs of the suit, declaring that the tug, her tackle, rigging, cargo and fishing apparatus be forfeited to the Crown.

COMMERCE OF THE GREAT LAKES.

According to the latest census reports the lake fleet numbers 2,784 craft with a tonnage of 926,355 and estimated to be worth $48.941,474 The freight movement amounts to 53,424,43 tons, and the persons employed as crews number 22,934. According to the report of the commissioner of navigation for this year the tonnag, of the lakes constitutes 25 per cent of the total tonnage of the country, which is an increase from 17 per cent in 1884. The tonnage passing through St. Mary's Falls canal exceeds that of the Suez canal.

The probable in navigation by a deep water channel forms an interesting topic for speculation. There is every reason for believing that the movement of the great agricultu.al products of the west would be from ports on the western extremities of the lakes. According to the report of the commissioner of navigation, New York shipped last year 55,000,000 bushels of wheat in 1,022 cargoes. The figures of the treasury department values the total exports of breadstuffs last year at $200,000,000. Animals exported are valued at $27,000,000, coal at $10,000,000, meat and dairy products at $138,000,000, raw wool at $14,000,000, meat prodncts at $15,000,000, lumber and wool manufacturers at $26,000,000. All these are almost exclusively western products whose nearest ports are lake ports.

THOSE PASSING SIGNALS IN FOG.

A newspaper article sent out recently has again brought to notice those pernicious fog signals foisted upon the lake marine by supervising inspectors of steamboats, they claiming in turn that the rule had its origin in the International Marine Conference, held in Washington, in 1886. The article alluded to in the foregoing no doubt emanated from the brain of some sensational marine reporter as he held that owing to passing signals not being permitted, the collision list for the past season was reduced to a minimum. This statement is not true as to facts. The only collisions we have had this year were in the early part of the season, and furthermore, they were due entirely to the senseless and unreasonable change of not permitting a passing signal to be given. A few masters and pilots started out in the spring with the intention of giving the new law a fair and square trial, but they soon found that confusion resulted and for safe navigation they were compelled to go back to what every one understood. From the writer's observation, and a very close watch was kept in thick weather, all our pilots were glad to "blow the old way" as they put it, and then everybody recognized the intelligence conveyed.

At a largely attended meeting of the Cleveland Shipmaster's Association, held on Friday last, a spirited and interesting discussion was held on the fog signal question and the query was put, "how did you all blow in a fog?" All present declared that they blew the old way. One of the foremost masters in the service saying, "I always felt safe when I heard a fellow who was fearless and honest enough to blow in a way he knew was right. I gladly answered him and knew that we were then safe from harm, but, had I heard his fog signal and then when coming into close quarters the signal ceased altogether, as this idiotic rule would have it, what could a sane man do but get gray-headed with anxiety through not knowing what the other vessel was doing or whether he had gone past or not."

Dr. Sieveking, of Germany, said at the International Conference, "stop there until the fog cleared up." How long, I would ask, could a master retain his position if he was to stop his boat every time that he entered a fog bank, not to speak of the impossibility of such action in a gale of wind with the consorts as tows that are handled on the lakes. That the pilots on the lakes must have passing signals is a certainty. To continue in the present uncertain way, is simply murderous, placing as it does the lives of passengers and crews in jeopardy and risking valuable property every time a vessel leaves port.

Now, it is the unqualified opinion of all with whom I have conversed with on this subject that the earlier the vessel owners and the Lake Carrier's Association awake to their obligation to secure rules for the safer navigation of lake tonnage, the less the loss of life and property will be. I would suggest that steps be taken to organize a board of representative lake masters and with H. D. Goulder, Esq., our able marine attorney, who is a practical lake seaman, and realizes the situation in all its force, draw up a positive and safe set of fog signals for the navigation of the lake marine in fogs, mists or falling snow. This fog signal question is not to be downed, it can not be put aside, it is an evil that meets us daily and hourly during the season of navigation, therefore I hope that those high in the counsels of the lake marine will at once bestir themselves to get this bad mess straightened out by calling as I have suggested a lake marine conference well qualified to deal with the subject. W. S. M.

CHANGING TIME RECKONING.

Time is reckoned or measured by the apparent motion of a celestial body over the surface of the globe, and is called solar, lunar or siderial, according to the body to which it is referred; a full revolution of either of these objects is called its apparent day, and begins when the object comes to the meridian, but for the convenience of civil and commercial business, that of the sun, called solar or civil time. is from midnight to midnight. The astronomical day is also measured by the apparent motion of the sun, but for the convenience of astronomical computations, it is taken to begin at noon, that is 12 hours after the beginning of the civil day, and ends at noon of the following day.

Astronomers generally reckon the hours of the day up to twenty-four hours without any distinction of ante or post meridian, which they call astronomical time; hence the first twelve hours of which are the P. M. hours of the civil day on which it begins, and the last twelve hours of it are the A. M. hours of the day on which it ends. The nautical day as well as the civil and astronomical day, is measured by the apparent motion of the sun. It begins just with the astronomical day, the first twelve hours of which are marked in the journal P. M., and the last twelve hours A. M., so that occurrences which happen on the afternoon of the civil day on which it begins come in the log or journal under the date of the civil day in which it ends. Ships' log books were formerly kept in nautical or sea time, but an officer today wouid be voted an ancient if his daily journal was not kept according to civil time.

Notwithstanding that the nautical day has been entirely superseded and that astronomical and civil time only are used aboard ship, it is now considered necessary for an international commission to regulate the trio of times to begin in 1901. To ascertain the views of those most interested, especially astronomers, as it is suggested to abolish the astronomical day, a circular was issued to astronomers of all nations, last April, inviting replies to the following question, viz.: "Is it desirable, all interests considered, that on and after the 1st day of January, 1901, the astronomical day should begin at mean midnight?" One hundred and seventy-one replies in all have been received; of these 108 are in favor and 63 are not in favor of the proposed change. In classifying the replies from astronomers according to the countries from which they have been received, the votes for or against the change stand as follows:

In favor of the change—Austria, Australia, Belgium, Canada, Colombia, England, France, Greece, Italy, Ireland, Jamaica, Madagascar, Mexico, Roumania, Russia, Scotland, Spain and the United States—18.

Unfavorable to the change—Germany, Holland, Norway and Portugal—4.

The 18 nations in favor of the change represent 85 per cent. of the tonnage of the world's marine.

It is perhaps necessary to state that a unification of interests and views is required in order that nautical almanacs or ephemerides published by various maritime nations and prepared several years in advance, may be made conformable to the new system of reckoning. From the foregoing it may be seen that the civil day is the reckoning used by the generality of mankind. It is the exact mean between the astronomical and nautical days, and differs precisely 12 hours from both. To effect a complete coincidence, it is only necessary to shift astronomical and nautical days each 12 hours, and this shifting will bring both to the civil day.

CLAIMS AND INSURANCE DECISIONS.

Judge Maxwell of Bay City, Mich., has rendered a very important decision of interest to vessel owners. The steambarge Burlington, owned by the commercial Bank of Bay City, was insured against fire in the Orient and British America companies for $10,000. The policies provided that she could be moored at her dock on Saginaw river, but might be moved to be rebuilt or repaired. April 16 she started for Cleveland to make repairs and carried a cargo of lumber. When on Detroit River near Sandwich she was burned to the water's edge. The insurance companies refused to pay the $10,000 and suit was brought. The companies claimed they were not liable, inasmuch as the Burlington was not on the Saginaw River, but on Detroit River. However, Judge Maxwell decides they must pay the insurance, the ground being that the clause permitting the boat to be moved for repairs held the insurance risks valid.

When the steamer W. H. Stevens collided with the steamer City of Paris at Duluth on the 28th of November last the damage was greater than at first supposed. Capts. Dennis Sullivan and J. V. Tuttle last week completed a survey of the damage sustained by the City of Paris. They found five frames, both clamps, fourteen strakes of outside plank and the ceiling from the upper deck clamp to the turn of the bilge broken. This is on the port side abreast of the engine. The starboard side they found pushed out slightly and about a dozen deck beam knees broken. It will be necessary to put in new knees and refasten this portion of the hull. The deck of the City of Paris, as well as part of the coamings around the engine hatch in the main deck, will have to be renewed also. The space between the coamings referred to and the engine cylinders is about eight inches, yet the force of the blow delivered by the Stevens sprung in the side of the Paris so that the coamings damaged the engines. Capts. Sullivan and Tuttle were not asked to submit estimates of the cost of repairs. They say, however, that necessary repairs will keep the Paris in drydock about twenty days, and that the cost of the work required will be from $6,000 to $7,000. As the insurance policies of the Stevens contained the collision clause the underwriters will have to foot the repair bill. But this will not prevent litigation between the different underwriting interests involved to determine where the responsibility for the collision rests and hence who must pay for the cost of repairs.

A suit of peculiar interest to vessel men on trial this week at Detroit in the United States Circuit Court involves the validity of the insurance upon their craft when the first trip is made in the spring. The rates of marine insurance are high and for this reason it is the practice of vessel owners and agents to place their risks on the day of sailing. This would be all right with the local companies, but much of the insurance is taken with eastern and even foreign companies. This is done through the local agents and policies from eastern cities are not received in much less than a week, while to get one from London or Liverpool would require upwards of two weeks. Meantime, the assured has nothing but the agent's word for his risk, and while that is of par value so far as the local agents are concerned, their word may not and possibly does not, bind the company. That is the question at issue.

April 10, 1890, the Chenango, a steamer owned by Cameron D. Waterman and the late Joshua W. Waterman was loading a cargo of 40,000 bushels of wheat at a Detroit elevator, consigned to Buffalo. She was to sail about 4 o'clock and P. J. Ralph & Co., her local agents began to look up an insurance policy.

The Chenango was built in 1887, cost nearly $70,000, and Mr. Ralph decided to insure her for $60,000 against ordinary marine perils for the season, and also to add $5,000 to her insurance against fire. It is customary to divide the insurance among several companies and this was done in this instance. Among other offices visited was that of Capt. Ward, and here, with a clerk, was placed $10,000 in the London Assurance—$5,000 in the Greenwich Co., and $5,000 fire insurance in the same company. The custom and usage is to consider the vessel insured from the moment the agent takes the risk and in this instance the stipulation was that the insurance was to date from noon of the 10th and continue until the close of the season; the fire insurance from the same time until the expiration of one year. The next day, when off Long point, Lake Erie, the vessel was destroyed by fire. The $60,000 had been divided among eight or ten different companies and all of them, except the Greenwich as to the $5,000 of fire insurance, promptly issued their policies and paid the losses. The contention arose from a misunderstanding as to the date when the $5,000 fire insurance should go into effect, the company claiming that it was to take the place of a policy that was to expire on the 20th. C. D. Waterman and the J. W. Waterman estate brought suit, F. H. Canfield for the plaintiffs, Stevenson & Warren for the defendant.

C. E. Kremer of Chicago, proctor in admiralty, has compiled all of the testimony in the case of the schooner Richard Winslow, which had a damaged cargo of corn on board last spring at Buffalo. A suit is to be begun against the vessel by the insurance companies who held lines on the cargo, to recover the amount paid to the owners of the grain. The situation in substance is as follows: In November, 1893, the Winslow brought from Lake Michigan a cargo of white corn. The vessel met with rough weather, and on arriving at Buffalo, her port of destination, a survey was held on the cargo by Captains B. F. Bruce and Robinson. They had the hatches taken off and examined the cargo as closely as possible, it is asserted, and found it in good condition. The grain was to be held during the winter of 1893-4 on board the vessel. She went into winter quarters, but during the winter the stage of water became low and the Winslow rested on the bottom, which caused her to list badly while grounded. Last spring, at the opening of navigation, the Winslow was towed to a floating elevator in Buffalo harbor to discharge her cargo and then it was found that 800 bushels of corn were thoroughly soaked with water and it had to be sold for a very low price. Besides this 50,000 bushels of corn were estimated to have been damaged to the extent of 3½ per cent. of its value. The insurance companies paid the loss, but are now endeavoring to recoup themselves for the amount involved by holding the vessel responsible for the damage to the corn. Considering the survey it is strange the cargo came to be wet, but it is generally believed that the vessel was strained either in coming across the lakes or while lying on the bottom when in winter quarters. The outcome of the suit will be watched with interest.

A PLEASANT REMINDER.

Capt. John Pereue and wife, of South Haven, Mich., celebrated their silver wedding, last week with the assistance of one hundred and twenty-six of their friends. Capt. and Mrs. Pereue were married at Norwich, Conn., and have spent more than twenty years of their married life in South Haven. Mrs. Pereue is one of South Haven's best in caring for those not so fortunate in their financial or physical blessings, while the captain is known around the lakes as one of the most skillful and genial mariners afloat. The voyage of domestic life has indeed been pleasant, with both consort and convoy, and it is gratifying to know that an extensive circle of friends in South Haven as well as at the far eastern early home, join in congratulations, and for the continued enjoyment and usefulness of Capt. and Mrs. Pereue.

PLANNING A CUP DEFENDER.

The syndicate which has been organized to build a boat to defend the America's cup will be made up of many of the gentlemen who furnished the money for the Vigilant last year. It is now said that C. Oliver Iselin will manage the new boat, as he did the Vigilant last year. There have been several conferences at Mr. Iselin's house at New Rochelle and plans which have been submitted to the Herreshoffs have been discussed at length. The new boat will have a centerboard and "Nat" Herreshoff will profit very much by the experience of the Vigilant in England last year. It is thought that the new boat will be built entirely of Tobin bronze and work will be begun on her at an early date. When the challenge was received in 1892 the Herreshoffs had to build the Navahoe, Vigilant and Colonia. The Navahoe was sailing in May and the other two were being tuned up in July. There is no doubt that with only one boat to build she can be got ready for a trial trip by June and then there would be three months to get her in racing trim. It has also been settled that if there is a race the Colonia will be tried again. Some alterations will be made in her and a centerboard will probably be put in.

NOTES.

OWING to a recent fire in the manufactory of David Kahnweiler the metallic lifeboat, raft and life preserver establishment in New York, temporary offices and works have been secured at 437 Pearl street, where the products of the firm have been manufactured and shipped without delay. As an indication of the energy and enterprise of this well-known house, we are pleased to learn that orders were filled and shipped on the day that the fire occurred. The new plant is equal in space and facilities to the former works and all requisitions will be carried out as promptly as heretofore.

THE Crescent Shipyard at Elizabethport, N. J, for several years managed by the Samuel L. Moore & Sons Co., but for the past year idle as to constructive work, is about to resume work under a new regime, and at the head of it will be Lewis Nixon, who has taken a lease of the yard for five years, with the option of purchase, but will retain his connection with Cramp's yard in Philadelphia. He will not, therefore, compete with the Cramps, but will confine himself to the construction of vessels of certain classes, including, probably, torpedo boats, and, it is said, may build a cup defender yacht in accordance with the idea in his recent paper before the Society of Naval Architects, opposing centerboards.

AND now comes along the Morris Machine Works, of Baldwinsville, N. Y., manufacturers of centrifugal pumping machinery, as well as vertical and horizontal engines with a large card board calendar for 1895, printed in bold black type with an artistic heading entitled "Holy Cross Abbey," which from an antique standpoint surpasses anything we have seen this season. The Morris Machine Works formerly trading under the firm name of Heald & Morris, was established in 1864, and now has a fully paid up capital of $300,000. It is just such reliable and old established firms that are in a position to send out to their patrons such an excellent souvenir as the one now before us.

A BILL of some interest to vessel owners, shippers and importers has just been passed by the Senate, and having already passed the House last session, now goes to the president for his signature. It enables the secretary of the treasury to remit or mitigate fines, penalties or forfeitures under the laws relating to vessels. Hitherto under the law as it has stood the treasury department has been much hampered in the consideration of applications for mitigation or remissions of fines, penalties and forfeitures incurred under the laws relating to immigration, quarantine or alien contract labor. In many cases, before action could be taken by the courts, the vessel concerned is ready to clear, and complaint was made that the loss from her detention is greater than the penalty ultimately imposed. This, in every way excellent legislation, has been brought about chiefly through the well advised efforts of the Hon. Eugene T. Chamberlain, commissioner of navigation.

THERE is now being pushed to the front a new system of calking called "Brook's Improved Method." We see that the patent has been issued in the United States and that Canadian as well as European patents are applied for. The claims made by the inventor for this system of calking seems to be very highly endorsed, it being in use on the American liners St. Louis and St. Paul, approved by the U. S. navy department for cruisers and battleships now building and recommended as the best system by a board of bureau chiefs of the U. S. navy department. The new method tersely explained consists of the planking having chamfered and grooved edges and a fibrous material packed into the space formed by the chamfers and grooves so as to form a permanent calking, the seams afterwards being payed as usual. Mr. J. T. Skerret, 3940 Spruce street, Philadelphia, Pa., is the general agent for the patents and its use.

ACCORDING to a dispatch from San Francisco grave fears are entertained for the safety of several steamers caught in a recent gale, among the list is the West Bay City built steel steamer Keweenaw. She is owned by the Saginaw Steel Steamship Co., of which Arthur Hill of Saginaw is president, was valued at $250,000 and insured for $200,000. The Keweenaw was built for the Saginaw Steamship Co. by F. W. Wheeler & Co., of Bay City, during the winter of 1890 and launched in May, 1891. The launch was a peculiar one and perhaps the only one of the kind in the history of shipbuilding, the vessel having been cut in two and pulled apart while on the stocks and each piece launched separately. Bulkheads were built at the cross-sections and in this manner the vessel was taken down through the Welland and St. Lawrence system of canals, being put in a dry dock at Montreal and the parts riveted together again. Wheeler & Co., it is reported, owned a large block of stock in the vessel.

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WALTER F. COBB, Vice President and Treasurer.

W. I. BABCOCK, Manager.
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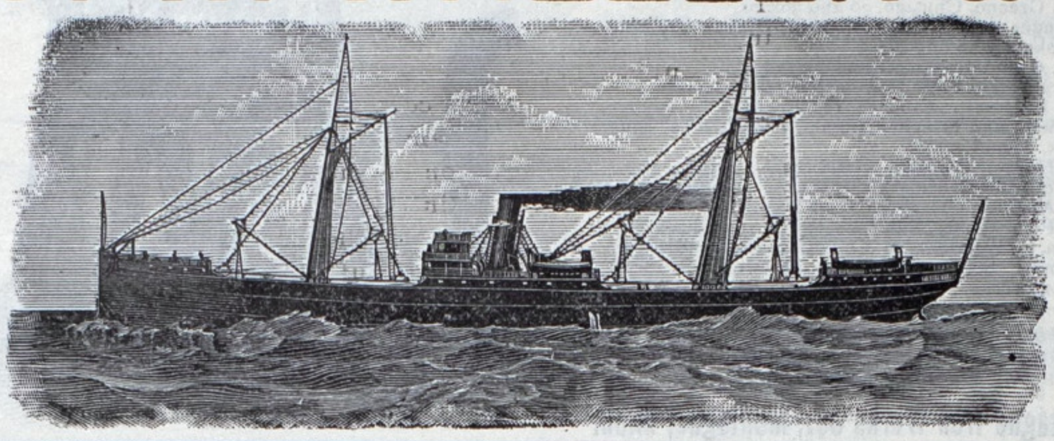

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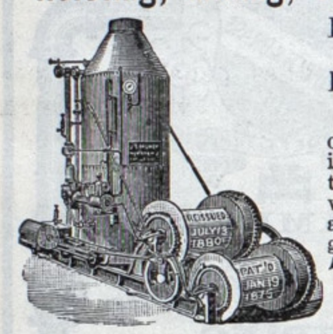

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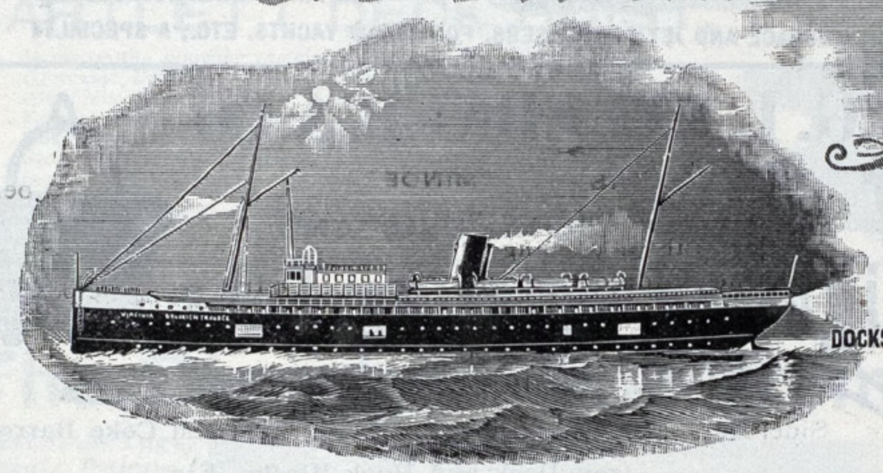

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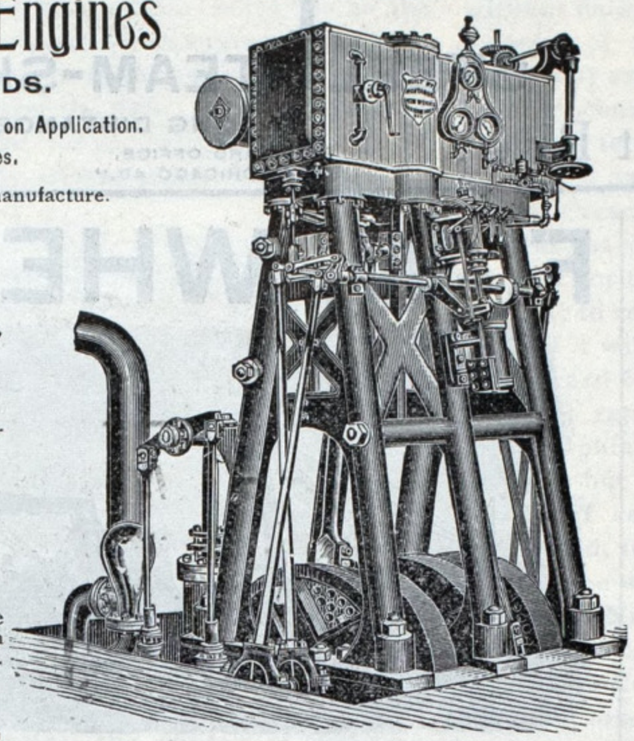

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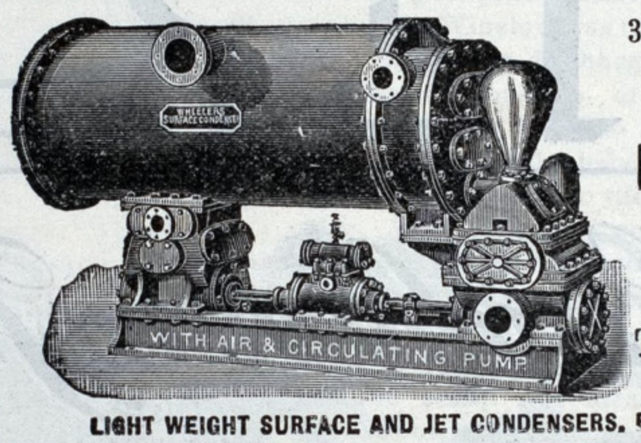

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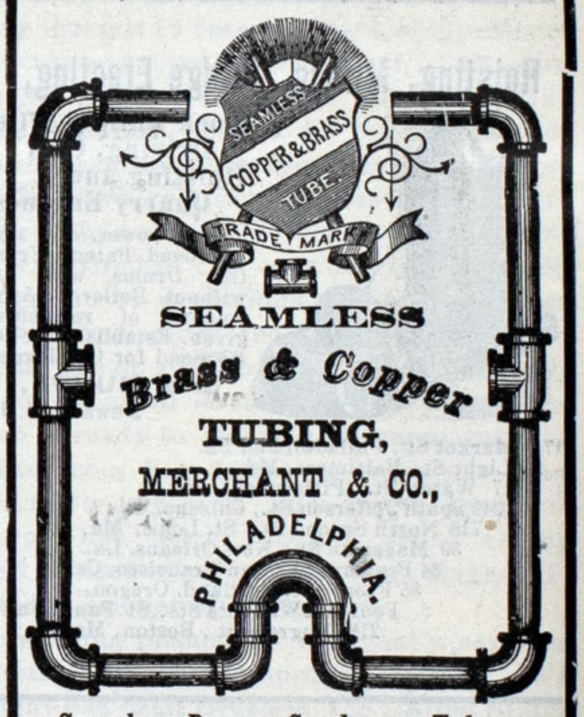

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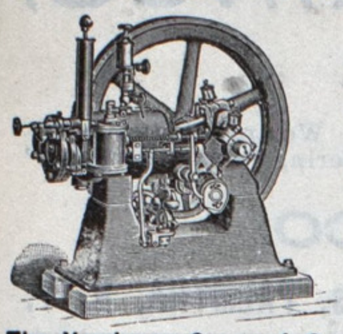

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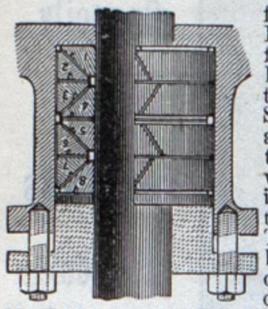

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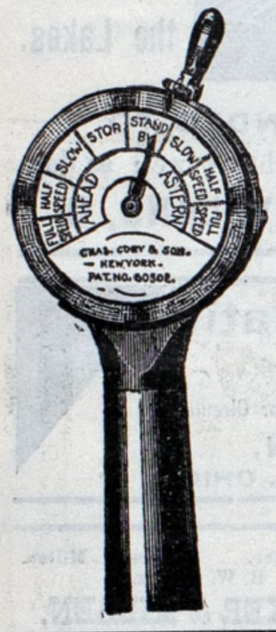

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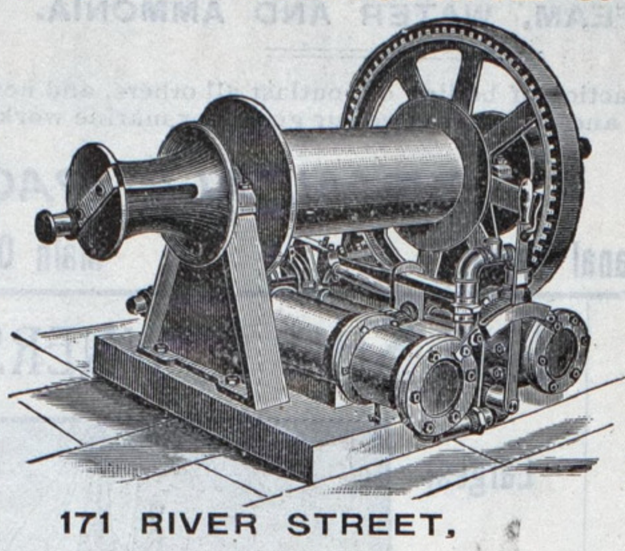

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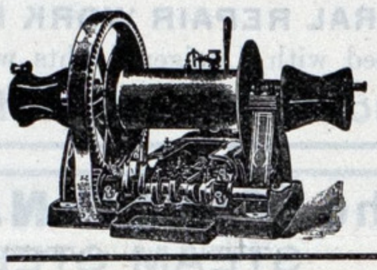

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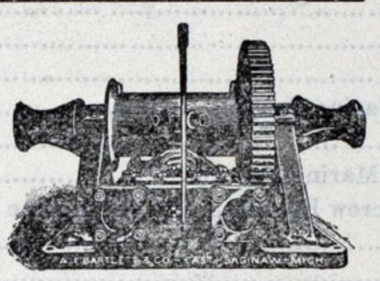

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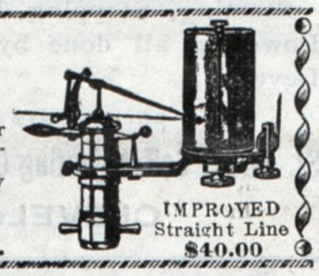

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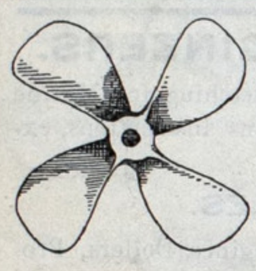

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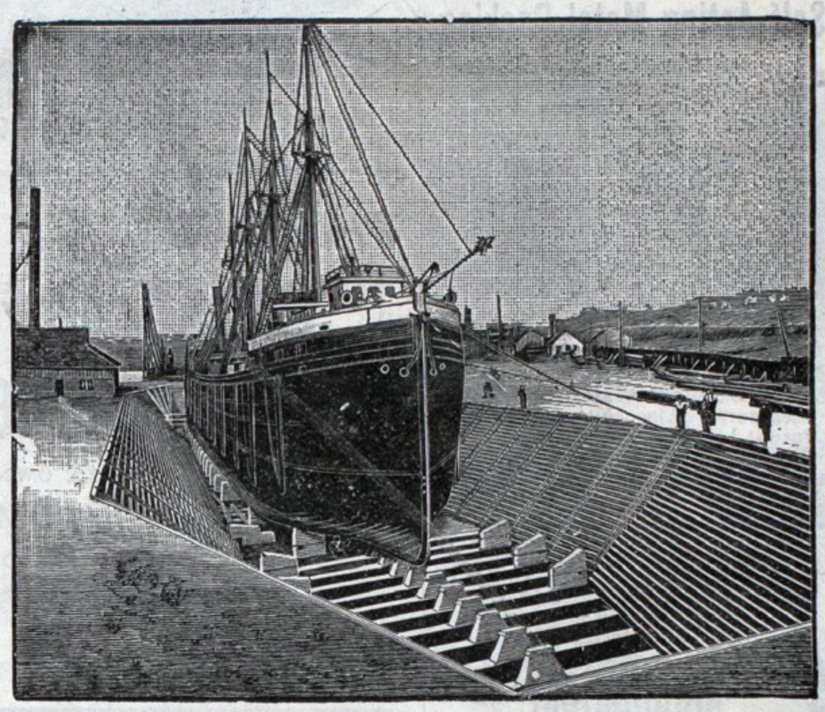

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